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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/475,385	12/30/1999	RANJAN GHOSAL	3600-011-01	6269

7590 04/10/2002

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EXAMINER

LAWRENCE JR, FRANK M

ART UNIT	PAPER NUMBER
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1724

DATE MAILED: 04/10/2002

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Please find below and/or attached an Office communication concerning this application or proceeding.

MF-10

Office Action Summary	Application No.		Applicant(s)	
	09/475,385		GHOSAL ET AL.	
	Examiner		Art Unit	
	Frank M. Lawrence		1724	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 March 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 18-25 and 38-51 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 18, 19, 22-25, 38, 46-48 and 50 is/are rejected.
- 7) ☒ Claim(s) 20, 21, 39-45, 49 and 51 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 18, 22, 23, 24, 38, 46-48 and 50 are rejected under 35 U.S.C. 102(b) as being anticipated by Sutt, Jr. ('281; col. 1, lines 35-44; col. 2, lines 23-31; col. 3, lines 29-38; col. 5, lines 24-43; col. 7, lines 17-37, 53-64; col. 8, lines 5-6; claims 1, 2).
4. Sutt, Jr. ('281) teaches a carbon molecular sieve for selectively adsorbing gases or liquids including oxygen, carbon dioxide, ammonia, argon, methane and hydrogen sulfide, comprising an activated carbon or molecular sieve carbon substrate having a polymer impregnated on its surface by a coating process. Pulverized pellets can be used. The polymer can comprise polar alkyl and aromatic groups such as phenols and cyclic polyesters made from alkyl monomers or derivatives such as alkylphenols. More than one polymer may be used and application can be simultaneous or sequential, inherently attaching organic groups to different portions of the substrate.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sutt, Jr. ('281) in view of Golden et al. (5,135,548; abstract; col. 8, lines 26-63).

7. Sutt, Jr. discloses all of the limitations of the claim except that water is the adsorbate. Golden et al. ('548) disclose a carbon molecular sieve having a surface that is modified by impregnation to make it hydrophilic for adsorbing water. It would have been obvious to one having ordinary skill in the art at the time of the invention to use a hydrophilically modified carbon material to adsorb water in order to provide an adsorbent that is abundant and inexpensive to separate water vapor molecules from an air stream as well as other pollutants that are typically adsorbed, eliminating the need for a separate desiccant such as silica gel.

8. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sutt, Jr. ('281) in view of Golden et al. (5,447,557; abstract; col. 2, lines 44-67).

9. Sutt, Jr. discloses all of the limitations of the claim except that carbon black is the carbonaceous material. Golden et al. ('557) discloses a modified carbonaceous adsorbent that can comprise any one of carbon molecular sieve, activated carbon, carbon black, and coal. It would have been obvious to one having ordinary skill in the art at the time of the invention to realize the functional equivalency of carbon black and carbon molecular sieve for the adsorption

Art Unit: 1724

of an adsorbate into its pores and to use one of the other based on the particular application and availability of the adsorbent.

Allowable Subject Matter

10. Claims 20, 21, 39-45, 49 and 51 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

11. Applicant's arguments filed March 14, 2002 have been fully considered but they are not persuasive.

12. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., the attachment of an organic group to the carbonaceous material by a chemical reaction) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). The Sutt, Jr. ('281) teaches a polymeric coating which can contain alkyl and aromatic groups physically attached to the carbon substrate using spraying or contact with a solution of the polymer. The instant specification discloses a method for attachment using a chemical reaction with diazonium salts, however the method is only disclosed as being "preferable" and the instant claims do not recite any limitations that define the method of organic group attachment. Applicant's use of the phrase "directly attached" with reference to claim 18 is unclear because the phrase is not recited in the claim. The intended attachment method is noted, however no language is used that would distinguish the claims over the cited

Art Unit: 1724

prior art. It is also submitted that the attachment in Sutt, Jr. is direct because physical impregnation into pores is used.

13. The rejections over Belmont ('739) and Tanaka et al. are withdrawn because they only deal with adsorption using activated carbon materials and no motivation is found in the references to apply the specific modifications to other carbon materials used in adsorption processes. The finality of the previous office action was improper and has been withdrawn as noted above.

Conclusion

14. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

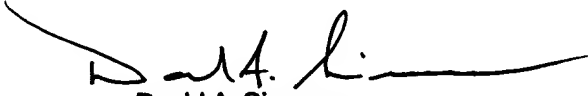
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Frank M. Lawrence whose telephone number is 703-305-0585. The examiner can normally be reached on Mon-Thurs 7:30-5:00; alternate Fridays 7:00-4:00.

Art Unit: 1724

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David A. Simmons can be reached on 703-308-1972. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0651.

fl 
April 1, 2002


David A. Simmons
Supervisory Patent Examiner
Technology Center 1700